Claims 56-61 and 64-65 have been rejected under 35 U.S.C. §112, first paragraph as not enabling the use of "homologs thereof". Applicants respectfully disagree with this rejection. However, in order to facilitate prosecution of the pending claims, applicants have amended claim 58.

Claim 56 has been objected to for the recitation "comprising" and criticized for lacking a functional limitation because "recognizes" confers no specific function. Applicants respectfully disagree with this rejection. The term "recognizes" is well-understood in the field of immunology and immunochemistry in describing the interactions between antigens, antigen-presenting molecules and antibodies. However, in order to expedite prosecution of the claims, applicants have amended the claims to recite "reactive with". This recitation is understood to reflect the interaction occurring once the peptide has bound to MHC and is then recognized by and bound to TIL. Applicants respectfully request reconsideration and withdrawal of the rejection.

Claims 56-61 and 64-65 have been rejected under 35 U.S.C. §112, second paragraph due to the recitation of "homologs". As discussed above, applicants have amended claim 58 and hence urge this rejection is overcome. These claims have also been rejected under §112, second paragraph in the recitation "derived from". Applicants have amended claim 56 so that it is understood that the subject matter of the claim is a portion of MART-1 or gp100. Reconsideration and withdrawal is respectfully requested.

Claims 56-57 have been rejected under 35 U.S.C. §102(a) as being anticipated by Adema et al. Applicants respectfully disagree with this rejection.

Adema describes the recognition of expression products of a gp100 cDNA by various antibodies. No peptides of gp100 are taught or suggested by the Adema reference. Claims 56-57 are directed, *inter alia*, to nucleic acids encoding peptides of gp100 having at least 8 amino acids, which are reactive with TIL. Adema merely describes antibody reactivity to a gp100 expression product. There is, however, no guidance in Adema on identifying short peptides of gp100 reactive with TIL. To assert that the antigenicity of full-length gp100 anticipates the specific identification of nucleic acids encoding peptides of gp100 that are reactive with TIL ignores the vast amount of experimentation necessary to identify such peptides. In addition, one cannot equate antibody reactivity with reactivity with TIL. Thus, Adema provides nothing that would guide the skilled artisan identification of nucleic acids encoding peptides reactive with TIL, as presently claimed. As the Examiner knows, an anticipatory reference must teach every element of the claim. Adema fails to teach or suggest any peptides of gp100 that are reactive with TIL. Therefore, this reference does not constitute a proper reference under 35 U.S.C. §102(a). Hence, applicants respectfully request reconsideration and withdrawal of this rejection.

Claim 56 has been rejected under 35 U.S.C. §102(b) over Kwon et al. Applicants respectfully disagree with this rejection.

Kwon describes the full-length gp100 protein. The reference sets forth the amino acid sequence and describes the various domains within the sequence, such as the glycosylation sites, the membrane-spanning region and repeated motifs. Kwon also does a sequence comparison between the mouse and human gp100 sequence. This data, while

interesting, provides no guidance in identifying peptides of gp100 that are reactive with TIL. Claim 56 is directed to, *inter alia*, peptides of gp100 that are reactive with TIL. Applicants urge that Kwon cannot anticipate this claim since there is no teaching or suggestion of nucleic acids encoding peptides of gp100 capable of reacting with TIL. In addition, undue experimentation is necessary to specifically identify TIL-reactive peptides from the full-length gp100. Hence, applicants respectfully request reconsideration and withdrawal of this §102 rejection.

Claims 56 and 57 have been rejected under 35 U.S.C. §103(a) over WO92/21767 in view of Kwon et al. Applicants respectfully disagree with this rejection.

WO92/21767 describes an antibody capable of recognizing a fragment of gp100.

Kwon, as discussed above, describes the structural characteristics of the gp100 protein.

In combining these references, the Examiner has assumed that the gp100 fragment described in WO92/21767 meets the limitations of claim 57 and that Kwon supplements the disclosure by setting forth the corresponding gp100 cDNA. Applicants disagree with this assessment of the art. WO92/21767 merely describes an antibody reactive with a fragment of gp100 while Kwon describes the amino acid sequence of gp100. Neither WO92/21767 nor Kwon, alone or in combination, teach or suggest peptides of gp100 capable of reacting with TIL, as presently claimed. Although WO92/21767 describes antibody binding to a fragment of gp100, this disclosure provides no guidance as to the peptide's

ability to react with TIL. The skilled artisan reviewing these references would face extensive and undue experimentation in identifying peptides that react with TIL, because antibody reactivity cannot be correlated to TIL reactivity. Neither Kwon nor WO92/21767, alone or in combination, teach or suggest any gp100 peptides capable of reacting with TIL. Hence, applicants respectfully request reconsideration and withdrawal of this §103 rejection.

On a new ground of rejection, claims 56-61 and 63-65 have been rejected under 35 U.S.C. §112, second paragraph as failing to clearly describe the invention. Applicants disagree with this rejection. However, in order to facilitate allowance of the pending claims, applicants have amended the claims, as suggested by the Examiner. As the rejection relates to claim 63, applicants note that the claim has been amended to recite "substantially homologous to". This language finds support in the instant specification on page 7, lines 7-18. Reconsideration and withdrawal is respectfully requested.

AUTHORIZATION

No additional fee is believed to be necessary.

The Commissioner is hereby authorized to charge any additional fees which may be required for this response, or credit any overpayment to Deposit Account No. 13-4500, Order No. 2026-4124.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this

response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4500, Order No. 2026-4124. A DUPLICATE OF THIS SHEET IS ATTACHED.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Date: September 16 , 1997

By: _____
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